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Response to Office Action of March 14, 2006
Via facsimile 571-273-8300
Date of Deposit: May 12, 2006

Attorney Docket Number NL 000278

Remarks

Claim 10 is here amended to correct a clerical error. Claims 26 and 32 are here amended to address issues raised in the Office Action. Support for these amendments is found in claims 1 and 10 as originally filed.

Claims 1-3, 5-12, 14-19 and 25-33 are pending in the application. No new matter has been added, and no new material presented that would necessitate an additional search on the part of the Examiner.

Issues under 35 U.S.C. §112

The Office Action on page 8 rejects claims 26 and 32 under 35 U.S.C. §112 ¶2. Applicants herein amend claims 26 and 32, and assert that the claims as here amended comply with 35 U.S.C. §112 ¶2. Applicants respectfully request that this rejection be withdrawn.

Claims are not obvious

The Office Action on page 8 rejects claims 1-3, 5-12, 14-19, 26-30 and 32-33 under 35 U.S.C. §103(a) in view of Echerer et al. (U.S. Patent Number 5,740,267, issued April 14, 1998) in combination with Fenster et al. (U.S. Patent Number 5,454,371, issued October 3, 1995) and Killcommons et al. (U.S. Patent Number 6,424,996, issued July 23, 2002).

Prior to analyzing the art cited in the Office Action, Applicants believe that a brief description of the subject matter of independent claims 1 and 10 would be of use to the Examiner. Claim 19, which includes the subject matter of claim 1, is also characterized.

Claim 1 is directed to a method for providing and processing a cursored user interaction with a spatially displayed medical image and producing graphics related data on

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the medical image. The method has steps of providing a menu-less graphical interface; displaying, essentially unobstructed, the medical image in a substantial portion of the graphical interface without the presence of menus, toolbars and control panels on the graphical interface; controlling a mouse computer interface device with at least one button; displaying a pointer symbol on the graphical interface, where the pointer symbol represents a current position of the mouse on the graphical interface; tracking the status of the button; detecting a position of the mouse, wherein the position detection step is activated upon actuation of the button; generating one of a plurality of different measurement graphics related to a predefined set of measurement operations on the medical image upon at least one actuation of the at least one button; when the medical image is displayed on the graphical interface without the presence of menus, toolbars and control panels, enabling the generation of different measurement graphics based only upon actuation of the button of the mouse when the pointer symbol is situated on the medical image such that the measurement graphics are generated without movement of the pointer symbol outside of the medical image, and enabling the generation of the at least three measurement graphics without requiring a user to define in advance the type of measurement graphic being generated.

Claim 10 is directed to an apparatus arranged to provide and process a cursored user interaction with a spatially displayed medical image. The apparatus comprises a menu-less graphical interface arranged to display, essentially unobstructed, the medical image in a substantial portion of the graphical interface without the presence of menus, toolbars and control panels on the graphical interface; a pointing device with at least one button, where the pointing device is represented on the graphical interface by a standardized pointer

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symbol and where the pointer symbol represents a current position of the pointing device within the context of the graphical interface; a processor configured to detect an actuation of the button of the pointing device and track positions of the pointing device; and a processor-internal list of measurement operations, the measurement operations being performed upon at least one actuation of the button and producing at least three corresponding, different measurement graphics on the medical image; the processor being arranged to produce, when the medical image is displayed on the graphical interface without the presence of menus, toolbars and control panels, the at least three different measurement graphics based on the list of measurement operations only upon actuation of the at least one button of the pointing device when the pointer symbol is situated on the medical image such that the measurement graphics are produced without movement of the pointer symbol outside of the medical image.

Claim 19 is directed to a machine readable computer program. The program implements a menu-less graphical interface and is arranged for processing cursoried user interaction with a spatially displayed medical image for producing graphics related data on the image for implementing a method as claimed in Claim 1 as described above. The program is arranged for sensing mouse positionings and/or actuations and for effecting inherent measuring functionalities based on relative such positionings with respect to an associated imaged medical object, and for subsequently outputting representations of the measuring functionalities for displaying in association with the medical object.

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Echerer et al., U.S. Patent Number 5,740,267, issued April 14, 1998

Echerer et al. shows an apparatus for acquiring a radiographic image, enhancing the image and extracting data from the image, and storing the enhancements and data so that relationships of objects in the image or other images can be determined. See Echerer et al., column 1, lines 17-21.

Echerer et al. fails to teach or suggest a menu-less graphical interface, as is the subject matter of claims 1, 10 and 19. Echerer et al. also fails to teach or suggest displaying, essentially unobstructed, a medical image in a substantial portion of a graphical interface, as is the subject matter of claims 1, 10 and 19.

Most important, Echerer et al. is silent as to “displaying...said medical image...without the presence of menus, toolbars and control panels on said graphical interface,” and “enabling the generation of the at least three measurement graphics without requiring a user to define in advance the type of measurement being generated,” as admitted by the Office Action on page 13.

For any of these reasons, Echerer et al. alone does not render any of pending claims 1, 10 and 19, and other claims that depend directly or indirectly from them, obvious.

Applicants show below that none of the other cited references cures these defects of Echerer et al.

Fenster et al., U.S. Patent Number 5,454,371, issued October 3, 1995

Fenster et al. shows a method and system for converting two-dimensional images of a target volume represented by an array of pixels into a three-dimensional image represented by a volumetric image array. See Fenster et al., column 1, lines 55-60.

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Fenster et al. fails to teach or suggest displaying, essentially unobstructed, a medical image in a substantial portion of a graphical interface, as is the subject matter of claims 1, 10 and 19. Further, Fenster et al., like Echerer et al., is silent to "enabling the generation of the at least three measurement graphics without requiring a user to define in advance the type of measurement graphic being generated," as admitted by the Office Action on page 14. Therefore, Fenster et al. fails to cure the defects of Echerer et al.

As Fenster et al. fails to cure the defects of Echerer et al. with respect to claims 1, 10 and 19, therefore claims 1, 10 and 19 are not obvious in view of Echerer et al. and Fenster et al., alone or in combination.

Killcommons et al., U.S. Patent Number 6,424,996, issued July 23, 2002

Killcommons et al. shows an integrated e-mail and server system for manipulating and communicating medical information. See Killcommons et al., column 1, lines 16-19. The server is adapted to store multimedia medical data and includes a data interface for acquiring, storing, and viewing the medical data. Ibid., column 3, lines 59-64.

Killcommons et al. fails to teach or suggest displaying, essentially unobstructed, a medical image in a substantial portion of a graphical interface, as is the subject matter of claims 1, 10 and 19. Killcommons et al. also fails to teach or suggest a menu-less graphical interface, as is the subject matter of claims 1, 10 and 19. Therefore, Killcommons et al. fails to cure the defects of Echerer et al. and Fenster et al.

As Killcommons et al. fails to cure the defects of Echerer et al. and Fenster et al. with respect to claims 1, 10 and 19, therefore claims 1, 10 and 19 are not obvious in view of Echerer et al., Fenster et al. and Killcommons et al., alone or in combination.

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Claims 2-3, 5-9, 11-12, 14-18, 26-30 and 32-33 depend directly or indirectly from claims 1, 10 and 19 and therefore incorporate all of the subject matter of these claims. As Killcommons et al. and Fenster et al. fail to cure the defects of Echerer et al. with respect to claims 1, 10 and 19, therefore claims 1-3, 5-12, 14-18, 26-30 and 32-33 are not obvious in view of Echerer et al., Fenster et al. and Killcommons et al., alone or in combination. Applicants respectfully request that this rejection be withdrawn.

The Office Action on page 23, ¶11 rejects claims 25 and 31 under 35 U.S.C. §103(a) in view of Echerer et al. (U.S. Patent Number 5,740,267, issued April 14, 1998) in combination with Fenster et al. (U.S. Patent Number 5,454,371, issued October 3, 1995), Killcommons et al. (U.S. Patent Number 6,424,996, issued July 23, 2002) and Buxton et al. (U.S. Patent Number 5,798,752, issued August 25, 1998). Echerer et al., Fenster et al., and Killcommons et al. are characterized above.

Claim 25 is directed to a method as claimed in Claim 1, where one of the measurement graphics is an angle value quantity which is assigned to a middle point of a continuous triple-point actuating/positioning.

Claim 31 is directed to an apparatus as claimed in Claim 10, including assigning means for assigning an angle value quantity to a middle point of a continuous triple-point actuating/positioning.

Buxton et al., U.S. Patent Number 5,798,752, issued August 25, 1998

Buxton et al. shows processor-controlled machines such as computers, and user interfaces for allowing a user to interact with the machine. See Buxton et al., column 1, lines 30-33.

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Buxton et al. fails to teach or suggest displaying, essentially unobstructed, a medical image in a substantial portion of a graphical interface, as is the subject matter of claims 1, 10 and 19. Buxton et al. fails to even mention medical images, let alone displaying medical images in a graphical interface.

Further, Buxton et al. fails to teach or suggest a menu-less graphical interface, as is the subject matter of claims 1, 10 and 19. Buxton et al. also fails to teach or suggest displaying a medical image on the graphical interface without the presence of menus, toolbars and control panels, as is the subject matter of claims 1 and 10. Therefore, Buxton et al. fails to cure the defects of Echerer et al., Fenster et al. and Killcommons et al.

Claims 25 and 31 depend directly from claim 1 and therefore incorporate all of the subject matter of this claim.

As Buxton et al. fails to cure the defects of Echerer et al., Fenster et al. and Killcommons et al. with respect to claim 1, therefore claim 1 is not obvious in view of Echerer et al., Fenster et al., Killcommons et al., and Buxton et al., alone or in combination. Therefore, claims 25 and 31, which include all of the subject matter of claim 1, also are not obvious in view of this combination of references.

For any of these reasons, Applicants assert that the present claims comply with 35 U.S.C. §103(a), and respectfully request that rejection of claims 25 and 31 under 35 U.S.C. §103(a) be withdrawn.

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Legal analysis

Whether an invention would have been obvious under 35 U.S.C. §103(a) is a legal conclusion based on underlying findings of fact. *In re Kotzab*, 217 F.3d 1365, 1369 (Fed. Cir. 2000).

The *Manual of Patent Examining Procedure* states: "[t]o establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure." [emphases added] *Manual of Patent Examining Procedure* §2142 (8th Ed. Rev.2, May 2, 2004); *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Applicants respectfully traverse the rejection, and show that the facts of the case and the relevant case law indicate that the invention would not have been obvious to one of ordinary skill in the art, at the time the application was filed, for the following reasons.

To establish a *prima facie* case for obviousness of a claimed invention, all of the claim limitations must be taught or suggested by the prior art. *Manual of Patent Examining Procedure*, §2143.03, p. 108 (8th Ed. Rev.2, May 2, 2004); *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). We show above that none of the references alone or in any combination teach or suggest all of the claim limitations.

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Analysis of references combined

To establish obviousness based on a combination of the elements disclosed in the prior art in the absence of any hindsight, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the applicant. *Id.* The teaching or suggestion, not merely to make the claimed combination, but also of a reasonable expectation of success, must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488; 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991).

None of Echerer et al., Buxton et al., and Killcommons et al., the more recent of the primary references, cite Fenster et al., the earliest reference, and fail even to cite any of the others. Under the legal criteria discussed above, Echerer et al., Buxton et al. and Killcommons et al. fail to provide any motivation for making any combination with Fenster et al., let alone suggest that such a combination would have been successful. As there is no citation in Echerer et al., Buxton et al. or Killcommons et al. to Fenster et al., there can be no teaching or suggestion to combine these references. For these reasons also, the combination of these references fails to teach or suggest the present claims.

As none of Fenster et al., Echerer et al., Buxton et al., or Killcommons et al. provide any explicit nor implicit motivation to one of ordinary skill in the art to have combined any elements of these primary references to have arrived at the present claims of Applicant's invention, then making the combination is using Applicant's own specification as a blueprint to reconstruct the invention, which is impermissible hindsight, viz., extracting merely an element or word from each reference, to attempt to reconstruct Applicant's claims when

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neither reference explicitly or implicitly teaches or suggests such a combination, let alone teaches or suggests a reasonable expectation of success.

The knowledge generally available to one of ordinary skill in the art would not have rendered the claims of the present invention obvious

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so, found either in the references themselves, or in the knowledge generally available to one of ordinary skill in the art. The legal criteria to determine the extent to which such knowledge is in the general art, rather than in a specification, has been extensively addressed by recent court decisions analyzed below.

In *Ruiz v. A.B. Chance Company*, 357 F.3d 1270; 69 U.S.P.Q.2d 1686 (Fed. Cir. 2004), the court found that the two cited prior art references both addressed precisely the same problem: the use of screw anchors to underpin existing structural foundations. The court explained that motivation to combine two references was found in the nature of the problem to be solved because the two cited references in this case addressed precisely the same problem of underpinning existing structural foundations. *Id.* at 1276. The court further stated that because the prior art references address the narrow mechanical problem of underpinning existing building foundations, a person seeking to solve that exact same problem would have consulted the references and applied their teachings together. *Id.* *Ruiz* thus provides only a very narrow scenario for when the nature of the problem can provide implicit motivation to combine references, requiring the prior art references cited to address precisely the same problem as the current invention.

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A second recent case, *National Steel Car, Ltd. v. Canadian Pacific Railway, Ltd.*, 357 F.3d 1319, 69 U.S.P.Q.2d 1641 (Fed. Cir. 2004), similarly addresses the issue of when motivation to combine references can be considered proper. In *National Steel Car*, the claims at issue were directed to a railcar with a "drop deck". *Id.* at 1322. In *National Steel Car*, the court determined that the motivation to combine the two prior art references is implicit in the knowledge of one of ordinary skill in the art, because both of the two references independently arrived at the "drop deck" railcar design. See *Id.* at 1337-1340. Since two different inventors in the field independently arrived at the claimed invention, the court decided that the motivation to combine the two cited prior art references was implicit in the knowledge of one of ordinary skill in the art. See *Id.*

In the present case, Echerer et al. shows an apparatus for acquiring a radiographic image, enhancing the image and extracting data from the image, and storing the enhancements and data so that relationships of objects in the image or other images can be determined. See Echerer et al., column 1, lines 17-21. Echerer et al. however fails to teach or suggest a menu-less graphical interface, or displaying, essentially unobstructed, a medical image in a substantial portion of a graphical interface.

Fenster et al. shows a method and system for converting two-dimensional images of a target volume represented by an array of pixels into a three-dimensional image represented by a volumetric image array. See Fenster et al., column 1, lines 55-60.

Killcommons et al. shows an integrated e-mail and server system for manipulating and communicating medical information. See Killcommons et al., column 1, lines 16-19.

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The server is adapted to store multimedia medical data and includes a data interface for acquiring, storing, and viewing the medical data. Ibid., column 3, lines 59-64.

Buxton et al. shows processor-controlled machines such as computers, and user interfaces for allowing a user to interact with the machine. See Buxton et al., column 1, lines 30-33.

These references neither teach nor suggest how to modify any of the technology of any of the other references in order to combine with the other references to arrive at the subject matter of the claims of the present application. Therefore, clearly, the narrow holdings of *Ruiz* and *National Steel Car* are inapposite to the present claims.

The facts of *Ruiz* and *National Steel Car* are readily distinguishable from the facts of the present case. In contrast to *Ruiz*, neither of the prior art references addresses precisely the same problem as each other, or as the present claims. Unlike in *National Steel Car*, in the present case there is no prior art disclosure that teaches or suggests all of the elements of Applicant's claims. Additionally, there is no prior art reference that discloses the combination of references cited by the Office Action. The lack of teachings by others of the Applicant's claims distinguishes the present case from both *Ruiz* and *National Steel Car*, and demonstrates that the motivation to combine the references cited by the Office Action was not implicit in the knowledge generally available to one of ordinary skill in the art at the time the present application was filed.

From this analysis it is clear that the present claims have been used as a blueprint to pick and choose references to reconstruct the invention, which is impermissible hindsight.

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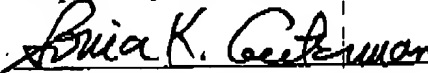
For any of the above reasons, Applicants assert that claims 1-3, 5-12, 14-19, 25-30 and 31-33 are not obvious, and respectfully request that the rejection be withdrawn.

Summary

On the basis of the foregoing reasons, Applicants respectfully submit that the pending claims are in condition for allowance, which is respectfully requested.

If there are any questions regarding these remarks, the Examiners are invited and encouraged to contact Applicant's representative at the telephone number provided.

Respectfully submitted,



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